

REMARKS

The amendment does not involve new matter. The specification, abstract and claims 1, 4, 7 and 19 have been amended to correct minor typographical errors. Claim 14 has been amended to explicitly include a definition found on page 17 of the specification.

In the outstanding Office Action, claims 1, 4, 7 and 19 were objected to regarding a misspelling of the word "maltitol." The forgoing amendments correct this error.

In the outstanding Office Action, claim 12 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite, as it was "not clear how the flavor can be added between application of coating syrup and nothing, when 'no dusting mix' is applied". Also, it was questioned what was intended by the phrase "just before and just after." A semicolon has been added to claim 12 to improve its clarity. Claim 12 is definite in that it requires two additional elements. First, a flavor has to be added between applications of the coating syrup. Second, a coating syrup is applied just before and just after the application of this flavor, and no dusting mix is applied between these specific coating syrup applications. This process was used in the example on page 14 of the specification. The phrase "just before and just after" has its ordinary meaning, referring to the application of coating syrup immediately preceding the flavor addition, and the application of coating syrup immediately after the flavor addition.

In the outstanding Office Action, claims 1-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,317,838 (Cherukuri '838) or U.S. Patent No. 4,238,510 (Cherukuri '510). This rejection is respectfully traversed. Claim 1 is directed to a method of forming a sugarless coating on chewing gum cores and requires, *inter alia*, providing a dusting mix comprising about 20% to about 60% of a bulk sweetener and about 40% to about 80% filler, and applying a plurality of layers of a coating syrup and a plurality of layers of the dusting mix to the chewing gum cores to form a sugarless coating on the gum cores. Claim 19 is similar, but more specific in requiring that the dusting mix comprises about 45% to about 55% maltitol and about 45% to about 55% calcium carbonate.

Both Cherukuri '838 and Cherukuri '510 have similar disclosures in that they teach methods of applying a sugarless coating to chewing gum, and both suggest the

use of a dusting mix that is applied between different coating layers of syrup. The composition of the dusting mix in Cherukuri '838 can include 40-90% sweetener, 5-30% moisture absorbing component, 2-20% antisticking (or filler) component and 2-12% dispersing agent. See col. 3 line 51 to col. 4, line 4. Since calcium carbonate can be used for both the antisticking component and the dispersing agent, it could be argued that Cherukuri '838 suggests as much as 32% calcium carbonate in the dusting mix. As can easily be seen, the present claims call for well more than the highest possible amount of calcium carbonate or other filler that would be used in Cherukuri '838, even if both the antisticking component and the dispersing agent were used at their extreme levels at the same time. In the Cherukuri '838 examples, the dusting mix never exceeded 15% combined of antisticking component and dispersing agent. See col. 6, line 44-49. Thus, a person of ordinary skill in the art reading Cherukuri '838 would not consider using over 32% of a filler in a dusting mix.

Cherukuri '510 is no more pertinent, and is even less relevant, than Cherukuri '838, because the maximum level of dispersing agent suggested by Cherukuri '510 is 5%.

The Office Action takes the position that even though Cherukuri '838 and '510 only teach using up to 20% filler in the dusting mix, it would only require routine experimentation by one reasonably skilled in the art to increase this level, and that increasing the level of filler would be expected to reduce the cost of the coating. This position is clearly based on impermissible hindsight of the invention. If this position were true, then Cherukuri '838 would have indicated that more than 20% filler could be used in the dusting mix. Presumably Cherukuri '838 would have been as motivated as anyone else to reduce the cost of the coating. The more plausible explanation, absent hind sight of the present invention, is that a person of ordinary skill in the art would, and Cherukuri probably did, realize that one cannot add filler to items used in a coating for chewing gum without negatively impacting the properties of the coating, in both a taste perception and appearance perspective, as well as the difficulty of the panning operation. Cherukuri '838 and Cherukuri '510 therefore teach that the maximum level of filler in the dusting mix should not exceed about 20%.

The present inventors, however, made an unexpected discovery. Not only could they use a higher level of filler in the dusting mix, but they were also able to improve some of the coating characteristics. As explained on page 4 of the present specification, it has been found that this higher level of use not only gives the advantage of lower cost by replacing the polyol, but also gives some technological advantages. The resulting product has a crunchier coating, and has increased corner strength, resulting in less corner chipping. In processing with this high level of filler, the coating time is also reduced, thus giving additional cost savings. Also, at this level, the filler, which is preferably calcium carbonate, does not contribute any sensory defects. Additional test have also shown that the finished product has improved shelf life when stored under high humidity conditions.

Pages 16-17 report the results of actual tests of the invention. Example 1 (using a dusting mix that contained 50% maltitol and 50% calcium carbonate) compared to Comparative Example A (where the dusting mix was 100% maltitol) was not only lower in cost due to replacing part of the maltitol with calcium carbonate, but also gave a faster coating time and improved the quality of the pellets with more corner strength and less chipping, and improved shelf life.

Example 2 (also using a dusting mix that contained 50% maltitol and 50% calcium carbonate) compared to Comparative Example B (where the dusting mix was 100% maltitol) was not only lower in cost due to replacing part of the maltitol with calcium carbonate, but improved product quality. The high maltitol content syrup used in Comparative Example B gave an improved corner strength compared to Comparative Example A and showed less chipping than Comparative Example A, but in so doing gave a less crunchy coating with a poorer shelf life. The added calcium carbonate in the dry charge of Example 2 gave a shorter coating time and increased the pellet crunch, while improving the corner quality and improving the shelf life.

The use of a high quantity of filler in the dry charge not only reduced the cost of the coating, it was surprisingly found to improve the coating quality, such as a cruncher coating, increased corner strength and improved shelf life. Other aspects of a high quality coating achieved using the preferred embodiment of the invention include smoothness, uniform color, and retaining the shape of the underlying core.

The unexpected results outlined in the specification rebut any *prima facie* case of obviousness, even if one were made out by Cherukuri '838 or Cherukuri '510. No one reading these references would have thought that an improved coating could be made with filler levels in the dusting mix that were at least twice the maximum suggested in the references. Thus claims 1 and 19, and claims dependent thereon, are patentable over Cherukuri '838 and Cherukuri '510.

Some of the claims are further patentable for additional reasons. Claims 3, 4 and 19 require even higher levels of filler than 40%. Claim 18 specifies that the method result in pellets with a coating having sufficient strength to prevent the corners from chipping during normal manufacturing and distribution of the coated pellets. Claim 14 requires the use of a high maltitol content syrup in the coating syrup, which means that over 80% of the solids are maltitol. It was found that the use of a high level of filler in the dry change also made it possible to use a high maltitol content syrup in the coating syrup, such as in Example 2. This material is lower in cost and more readily available than high purity maltitol powder. As noted above, the use of a high maltitol content syrup gives improved corner strength of pellets during processing, but gives a product with a shorter shelf life. However, utilizing the present invention, it is believed that a product that will have good corner strength for processing, while still giving a product with good product shelf life, can be produced. There is no suggestion in Cherukuri '838 or Cherukuri '510 of using a high maltitol content syrup. Thus, claim 14, as well as claims 3, 4, 18 and 19 are further patentable over the cited references.

Thus, all the claims pending in the application are allowable over the cited prior art. Since all of the claims are allowable, and the objection has been overcome, it is believed that the case is in condition for allowance.

Respectfully submitted,

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